

CLAIMS

What is claimed is:

- 5 1. A surgical instrument comprising:
 a first elongated member having a handle
 end portion, a working tip portion, and a box hinge
 portion between said handle and tip end portions;
 a second elongated member having a handle
10 end portion, a working tip portion, and a box hinge
 portion between said handle and tip end portions,
 said second elongated member also having two opposing
 side surfaces;
 said first box hinge portion being defined
15 by a slot having upper and lower sides for receiving
 said second box hinge portion therein, said slot
 having a pivot point on each of said upper and lower
 sides;
 said second box hinge portion being
20 generally continuous in width with the handle and tip
 portions on either side of the box hinge portion; and
 said second box hinge portion having a
 pivot point on each of said side surfaces of the
 second box hinge portion;
25 said pivot points of the first box hinge
 portion mating with said pivot points of the second
 box hinge portion.

2. The surgical instrument of claim 1,
30 wherein said first box hinge portion pivot points are
 protrusions and said second box hinge portion pivot
 points are depressions.

3. The surgical instrument of claim 2,
wherein said first box hinge portion pivot points and
said second box hinge portion pivot points are one of
a cylindrical, round, conical, triangular, and
5 elliptical shape.

4. The surgical instrument of claim 1,
wherein said first box hinge portion pivot points are
depressions and said second box hinge portion pivot
10 points are protrusions.

5. The surgical instrument of claim 4,
wherein said first box hinge portion pivot points and
said second box hinge portion pivot points are one of
15 a cylindrical, round, conical, triangular, and
elliptical shape.

6. The surgical instrument of claim 1,
wherein said first box hinge portion pivot points and
20 said second box hinge portion pivot points are
located at approximately the center of the sides of
the slot and of the side surfaces respectively.

7. The surgical instrument of claim 1,
25 wherein the side surfaces of the second elongated
member have a nearly flat transitional slope
therebetween the box hinge portion and the handle end
portion on one end and the box hinge portion and the
working tip portion on the other end.

30

8. The surgical instrument of claim 1,
wherein the transitional slope of the second
elongated member between the box hinge portion and

the handle end portion on one end and the box hinge portion and the working tip portion on the other end is a long smooth oblique transition.

5 9. The surgical instrument of claim 1, wherein the first elongated member is wider than the second elongated member at either end of the box hinge portion.

10 10. The surgical instrument of claim 1, wherein the handle end portion includes a circular handle and a locking mechanism interconnected at the far end of the handle end portion.

15 11. The surgical instrument of claim 1, wherein the inside surface of the working tip portion includes a gripping structure.

 12. The surgical instrument of claim 1,
20 wherein the length of the handle end portion is generally longer than the length of the working tip portion.

 13. An improved surgical instrument of the
25 type having two elongated members, each member having a working tip portion, a handle end portion, and a box hinge portion, wherein the improvement comprises a box hinge defined by a slot located in the box hinge portion of the first elongated member having
30 upper and lower sides for receiving the box hinge portion of the second elongated member therein, the slot having pivot points on each of its upper and lower sides and the second box hinge portion having

pivot points on each of its side surfaces, one set of either the first or second box hinge portion pivot points being protrusions and the other being depressions, the pivot points of the first box hinge portion mating with the pivot points of the second box hinge portion such that the box hinge may open and close, and the ends of the second box hinge portion having a width narrower than the width of the ends of the first box hinge portion, such that the side edges of the first elongated member are larger relative to the side edges of the second elongated member at either end of the box hinge.

14. A method of suturing an opening in tissue including the steps of:

providing a surgical instrument comprising:

a first elongated member having a handle end portion, a working tip portion and a box hinge portion between said handle and tip end portions;

a second elongated member having a handle end portion, a working tip portion and a box hinge portion between said handle and tip end portions, said second elongated member also having two opposing side surfaces;

said first box hinge portion being defined by a slot having upper and lower sides for receiving said second box hinge portion therein, said slot having a pivot point on each of said upper and lower sides;

said second box hinge portion being generally continuous in width with the handle and tip portions on either side of the box hinge portion; and

said second box hinge portion having a pivot point on each of said side surfaces of the second box hinge portion;

said pivot points of the first box hinge
5 portion mating with said pivot points of the second box hinge portion.

15. The method of claim 14, further comprising the steps of:

10 operatively mounting a suture needle with suture thread in said working tip portion; and

suturing the opening in accordance with common medical practice;

whereby the suturing is conducted in a
15 snag-free manner.

16. The method of claim 14, wherein the step of providing a surgical instrument further comprises providing a surgical instrument wherein the
20 first box hinge portion pivot points are one of either protrusions or depressions and the second box hinge portion pivot points are the other.

17. The method of claim 16, wherein the
25 step of providing a surgical instrument further comprises providing a surgical instrument wherein the first and second box hinge portion pivot points are one of a cylindrical, round, conical, triangular, and elliptical shape.

30

18. The method of claim 14, wherein the step of providing a surgical instrument further comprises providing a surgical instrument wherein the

first and second box hinge portion pivot points are located at approximately the center of the sides of the slot and of the side surfaces respectively.